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ABSTRACT

The manual's purpose is to acquaint physical and occupational therapists with the goals and practices of adapted physical education (PE). The manual delineates the essential difference between therapy and adapted PE in terms of their differing goals for students and separate training and certification of practitioners. The manual then offers a variety of suggestions for working with teachers to alter equipment, rules, time limits, positions, and size of teams and playing areas so that students with disabilities will have PE experiences that are meaningful and beneficial. A section on modifying PE activities encourages therapists and teachers to involve students in making changes, consider long-range needs, and reward students for their "personal best" performance. Factors to consider for specific handicapping conditions are noted. Lesson plans are offered for jumping, kicking, visual tracking, catching, and throwing. Organized sports opportunities are described, focusing primarily on Oregon resources. Appendices include a list of 14 references; a roster of area directors of Oregon Special Olympics; a list of resources including organizations, written materials, and videotapes; and an article reprint of "Physical Education Activities for Children with Severe Cerebral Palsy" by Sue Miller and Ken Schaumberg. (JDD)

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THE THERAPIST'S ROLE IN ADAPTED PHYSICAL EDUCATION

Nancy Cicirello, Sandra Hall
Penny Reed and Judith Hylton

May, 1989

In writing this manual we have chosen to avoid awkward word combinations such as (s)he and his/hers, and instead have elected to refer to children as "he"; therapists, teachers and aides as "she"; and supervisors as "he". We hope the reader will accept this style and find it comfortable, for that is our intent.

PREFACE

INTRODUCTION

Because physical therapy and occupational therapy entered public school systems simultaneously with adapted physical education, many people believe they entered together, with therapy and adapted physical education attached to one another like Siamese twins sharing a common blood stream. The confusion arising from this misperception is compounded by the presence of the word "Physical" in the terms "adapted physical education," and "physical therapy" leaving many people thinking that surely, the two must be related.

Indeed, the disciplines of physical and occupational therapy are related to adapted PE, but no more so than they are to the other disciplines that are involved in the education of students who have disabilities. Just as therapists have important roles to play vis-a-vis speech and language pathologists, teachers, vision specialists and hearing specialists; they also have an important role to play with adapted PE specialists.

The purpose of this manual is to acquaint therapists with adapted PE, its goals and its practices so they can consult knowledgeably with the teachers who conduct adapted PE programs. Beginning with the first chapter, "Physical Therapy is not Physical Education" the manual delineates the essential difference between therapy and adapted PE in terms of their differing goals for students, and separate training and certification of practitioners. The manual then offers a variety of suggestions for working with teachers to alter equipment, rules, time limits, positions, and size of teams and playing areas so that students with disabilities will have PE experiences that are meaningful and beneficial.

BACKGROUND

Project TIES: Therapy in Educational Settings is a collaborative effort conducted by the University Affiliated Program of the Child Development and Rehabilitation Center at the Oregon Health Sciences University, and the Oregon Department of Education, Regional Services for Students with Orthopedic Impairment. Project TIES was funded by the U S Department of Education, Office of Special Education and Rehabilitative Services, grant number G008630055. The goal of this three year project is to develop training materials for physical therapists and occupational therapists who work in schools with students who have a severe orthopedic impairment.

The topics of these training materials were determined through a series of formal and informal needs assessments by therapists practicing in schools in Oregon. Project staff then grouped the identified needs into topical categories and determined the format that would best convey the content of each topic. Eleven topics were identified, three warranting coverage through a videotape.

The training materials were developed primarily for therapists who are new to the unique demands of the school setting or who have had little experience with children who have a severe orthopedic impairment. Other people such as administrators, teachers, aides and parents will find these materials helpful in understanding what therapists do and the rationale behind their efforts to integrate students' therapy programs into the larger context of their educational programs.

Since September of 1987, the project completed four manuals:

Considerations for Feeding Children who Have a Neuromuscular Disorder

A Model Plan for the Supervision and Evaluation of Therapy Services in Educational Settings

Selected Articles on Feeding Children who Have a Neuromuscular Disorder

The Role of the Physical Therapist and the Occupational Therapist in the School Setting

Seven manuals and two video tapes are scheduled for completion in Spring of 1989. They are:

Adapting Equipment, Instruction and Environments in Educational Settings

The Art of Coaching: Training Nontherapists in the Physical and Functional Management of Students video

Consultation and Team Skills for Therapists in Educational Settings

Developing Functional IEPs Through a Collaborative Process

Implementing Functional IEPs Through a Collaborative Process

Making Inexpensive Equipment from Tri-wall

Teaching Nontherapists to do Positioning and Handling in Educational Settings

Teaching Nontherapists to Protect Their Backs When Moving Students who have Physical Disabilities video

The Therapist's role in Adapted Physical Education

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Julie Speck, Physical Therapist
Salem-Keizer School District 24J
Salem, Oregon

We also thank the physical and occupational therapists in schools throughout Oregon who field tested these materials and offered many valuable suggestions for their improvement. We thank our fine support staff, Renee Hanks, Vicki Klum and Lyn Leno for their efficiency and good humor even while typing revisions of revisions. And we thank the children in Oregon's schools who have taught us how we learn.

We are grateful to Dr. Gerald Smith, Director of Training, University Affiliated Program at Oregon Health Sciences University; Patricia Ellis, former Associate Superintendent of Special Education; and Karen Brazeau, current Assistant Superintendent of Special Education, Oregon Department of Education, whose vision was essential to the inception of this undertaking and whose support vastly contributed to its successful execution.

We are indebted to Allan Oliver, former Art Director of the OHSU Design Center, for his fine work and infinite patience in developing a cover design, and to Jennifer Portis who so adeptly turned our complicated descriptions into simple illustrations.

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TABLE OF CONTENTS

Physical Therapy is not Physical Education 1

Goals of Adapted Physical Education 5

Adapting Physical Education Activities 6

Suggested Modifications 9

Adapting Physical Education In Self-Contained Classes 19

Organized Sports Opportunities 27

Appendices 30

- A References
- B Oregon Special Olympics
  Roster of Area Directors
- C Physical Education Activities
  for Children with Severe Cerebral Palsy
- D Resources

PHYSICAL THERAPY IS NOT PHYSICAL EDUCATION

School therapists, especially physical therapists, often are asked to provide therapy in lieu of physical education for students with physical disabilities.

In some school districts that do not employ a physical education instructor, let alone one trained in adapted PE, therapists succumb to the pressure exerted on them to assume responsibility for the adapted PE program because no one else feels qualified to do so. However, PE is not a therapist's responsibility. Under Public Law 94-142 adapted PE is a part of special education and not a related service. As such, adapted PE must be delivered under supervision of a credentialed teacher and not by a physical therapist.

Public Law 94-142 includes physical education as a part of special education, and defines physical education.

> "The term 'special education' means specially designed instruction, at no cost to the parent, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions." Underline added.
>
> "(Physical education is defined)...as the development of...(a) physical and motor fitness; (b) fundamental motor skills and patterns; and (c) skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports)." (Federal Register 10/77, Part II, 121a. 307 Physical education)
>
> (ii) the term includes special physical education, adapted physical education; and motor development." (Federal Register 10/77, Part II, 121a.14 Special education)

The law also states that

> "...physical education services, specially designed if necessary, must be made available to every handicapped child receiving a free appropriate public education." (Federal Register 10/77, Part II, 121a.307 Physical education)

Physical therapy and physical education have different but complimentary goals, and the people who are qualified to provide these separate services have different training and different licenses. Just as a physical education teacher would not dream of trying to provide physical therapy, a physical therapist should not provide physical education.

Because physical therapy is not the same as physical education, it cannot be made to substitute for it. Both may be necessary for some students. If a student needs physical therapy, he should receive it,

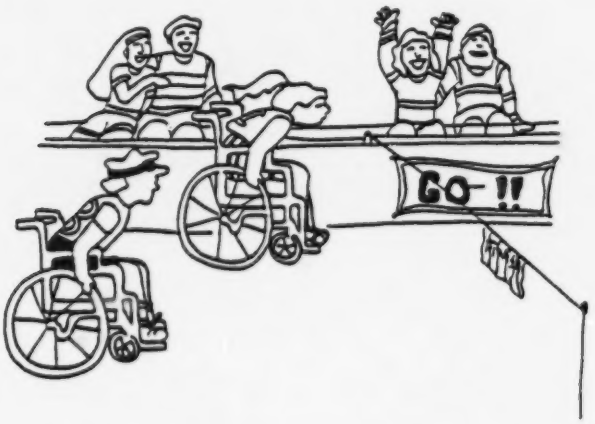
but he will still need physical education and should receive that too.

Therapists do have important roles to play in physical education that is adapted for students with handicaps. That role is to consult with and work as a team member with the people who teach the physical education programs and provide them with information, particularly during the planning process so they can make useful adaptations in their programs.

Therapists also should be prepared to help administrators and PE teachers recognize the implication of the requirements in PL 94-142 regarding adapted PE, and to help administrators understand that PE teachers need extra time to evaluate students, prepare activities and carry out adapted PE programs.

WHAT IS ADAPTED PHYSICAL EDUCATION?

The term "adapted" has been applied to all programs directed toward students with deficiencies and disabilities. Physical education programs that are adapted have the same objectives as regular physical education programs, but have had some components adjusted in order to meet the needs and abilities of exceptional students. (Fait, 1971). These adjustments can include alterations in equipment, rules, time limits, positions and size of teams and playing areas.



Joan Kelly, an Adapted Physical Education Specialist with Eugene School District describes the difference between physical therapy and physical education by pointing out that through physical therapy some students learn to walk but through adapted physical education they learn how to use walking as an active recreational and leisure time skill.

THERAPISTS AS CONSULTANTS

This manual was designed to assist therapists in their role as consultants regarding adapted physical education. Therapists can make many valuable contributions to adapted PE programs. They can help the school community recognize the need that students with disabilities have for adapted PE and they can help clarify the essential differences between adapted PE and physical therapy. Therapists also can help establish adapted PE programs in their school and work with PE specialists to promote participation of students who have orthopedic impairments.

By virtue of their training and experience with students, both physical and occupational therapists are in an ideal position to help teachers understand how a handicap interferes with a student participating in regular PE activities in a regular way, and to offer valuable suggestions for adapting activities and equipment so he can participate more fully in the PE class. Therapists know which activities and movements are easiest for a student, which he does not do well yet, but is ready to learn and which he should avoid because they are too difficult or too risky for him.

Because therapists are more familiar than anyone else with a student's school therapy program and the needs it is designed to meet, they can help teachers develop PE programs that compliment the school therapy programs or they can modify therapy programs so they compliment PE programs. It may be necessary for therapists to let go of some therapeutically correct positions and movements in order for students to gain some of the social and emotional benefits offered by PE programs.

As students grow older, therapists can be instrumental in integrating therapeutic interventions into functional PE activities that are carried out in PE classes and community recreational programs.

Occupational therapists also can offer excellent suggestions for adapting equipment. They are knowledgeable about leisure activities that are a part of the PE curriculum.

"WHEN IT'S TIME TO PLAY, SEND THEM AWAY," AN OUT-DATED PHILOSOPHY

When adults exclude children who have handicaps from taking PE with their nonhandicapped classmates, they send a powerful message. That message is: "It's not a good idea to play with those kids who have handicaps; the rule around here is, when it's time to play, send them away." This message can lead students to believe that children with handicaps do not like to play or that they fear play because they could get hurt or even die if they tried to do the games other children enjoy. It also can lead students who have handicaps to believe they cannot play and are unworthy of the socialization involved in play.

The practice of sending children to physical therapy or the library during PE, "because they need extra time to work on the skills taught there," ignores their need to simply be children and have fun, to learn to play with others and to interact with their nonhandicapped classmates in activities that will gain for them the acceptance and understanding they need for healthy development.

BENEFITS OF INTEGRATED PHYSICAL EDUCATION

Physical education classes offer a way for students to develop life-long fitness and leisure activities that can be used beyond the school years. Whenever possible, students with physical disabilities should participate in PE along with nonhandicapped students because both parties can benefit from this experience. By playing together, they can learn to work together cooperatively and to appreciate each other's strengths and abilities. Able-bodied students can come to admire how hard students with disabilities must work to do things others do easily. They can learn ways to include these students in their games at school and in the neighborhood. Students with handicaps will have the advantage of becoming a part of the normal exchange that occurs among children during play. They will have the opportunity to see a variety of models for social behavior and to learn that their own feelings about winning and losing, competition and rules are no different than those of other students.

GOALS OF ADAPTED PHYSICAL EDUCATION

The goals for physical education are the same whether the program is adapted for students who have disabilities or is delivered in a standard way for those who are not. These goals can be grouped into two areas:

- to improve motor skills and develop a higher level of physical fitness and,
- to increase social and emotional development

Even if students with handicaps are unable to develop as high a level of physical fitness as nonhandicapped students, they certainly can improve their fitness through regular participation in activities that are designed to meet their own individual needs and are matched to their level of ability.

Although PE goals are the same for all students, those developed for students who have disabilities must be individualized for them in the same way the rest of their educational goals are. This means that the amount of improvement in physical fitness, motor skills and social and emotional skills expected of them is based on their current level of functioning and rate of change. Growth in social and emotional skills, particularly is dependent on the student having the opportunity to learn how to play with other children, to experience success and a sense of accomplishment. For some students with disabilities, the sense of accomplishment and self-worth that comes with being on a winning relay team may be unavailable from any other source, and although these things are not easily measured, their pursuit should not be abandoned.

PE activities for students with disabilities, whether conducted in a special class or a regular PE class, should be selected to meet one or more of the following goals:

- to increase physical fitness
- to develop abilities in basic motor and sports skills
- to increase understanding of personal limitations while emphasizing strengths
- to develop feelings of self-worth
- to promote knowledge and appreciation of physical activity and games
- to promote lifetime leisure activities
- to improve spectator skills through knowledge of rules and strategies
- to increase opportunities to experience the joy of active interaction with peers

For students who have severe disabilities, many PE activities may have to be specially designed to promote active participation. Even goals such as promoting knowledge and appreciation of physical activity and games should be taught through the students' participation and not as a purely cognitive skill.

ADAPTING PHYSICAL EDUCATION ACTIVITIES

If it is necessary to modify PE activities to meet the needs of a student with a disability, there are at least four approaches to making these changes. These approaches are:

to change the equipment
to change the way all students play
to change the way one student on each team plays
so the special student's team is not penalized, and
to make special allowances for the student with a disability

INVOLVE STUDENTS IN MAKING CHANGES

Whenever possible, it is a good idea to involve all students, those who have a handicap and those who do not, in deciding how to adapt a game. If students help choose the changes, they will be more satisfied with the end result and, perhaps feel more confident in making changes by themselves in games played at recess and in the neighborhood. One way to promote student participation in developing changes for games is to hold a contest at the beginning of the school year to see who will come up with the best changes for favorite games and activities. The students may need several examples such as those in this manual to get them started.

Whether changes are made in the way an activity is done, the equipment used or the rules observed; the changes should be explained to students as a way to make doing the activity equal rather than easier. The concept of equitable challenges should be explained as a way to give everyone the opportunity to participate and learn.

GIVE PRESTIGE TO AN IMPORTANT JOB

Sometimes a student who has a disability will need the assistance or at least the cooperation of a buddy if he is going to participate in an activity. For instance, after propelling his wheelchair over a part of a race route, he may need someone to push him over the rest of the route. When assigning a student to be a buddy, or to be the "disabled" member of a team, it is important that the privilege involved in such a role is understood by the students. Such a privileged status can be communicated to students by stressing that the role requires someone who is responsible, considerate, a good sport, and so on. The role should never be assigned to someone as a punishment or to keep him in line and it should be rotated among students so it does not interfere with any student's participation in the PE program.

MAKE A "PERSONAL BEST" PUBLIC INFORMATION

Although students with physical handicaps cannot always compete equally with their nonhandicapped classmates, competition against their own previous performance can be a part of their experience in PE. It can be very rewarding to a student to find he can do more sit-ups, throw a bean bag farther or make more baskets than previously. If prizes or medals are given for classroom performance, there should be categories for "personal best," most spirit and good sportsmanship.

FIT CHANGES INTO THE EXISTING STRUCTURE

When making suggestions for changing any part of an established PE program, therapists should suggest changes that will be as undisruptive as possible. In order to do this, the therapist must be aware of what the existing program is. The schedule below shows a typical progression of activities during a class, and items therapists should consider when consulting with PE teachers.

warm up **about 5 minutes**	Students do large rhythmic body movements to promote flexibility and cardio-vascular functioning. The target student warms up with other students. The consultant recommends the use of any needed special exercises which could be done by the targeted student or by the entire group if appropriate.
skills **5-7 minutes**	The teacher explains and demonstrates the skills that will be used in the coming activity. Students imitate and practice the skills. The target student listens, watches and practices along with classmates.
activity **13-15 minutes**	Students participate in the activity. Teacher emphasizes skill development, positive social interaction and personal enjoyment. This period should be fun and appropriately challenging. Target student participates with others as much as possible. If needed, the consultant initiates problem solving to determine what adaptions can be used.
closure **5 minutes**	This period includes cooling down, relaxing, cleaning up equipment and preparing to return to class. The target student participates with his classmates in the activities.

It may be useful for the therapist to ask the PE teacher for a schedule of the PE activities that will be taught during the year. Many PE teachers divide the year into activity units and prepare a schedule of them early in the school year.

CONSIDER LONG RANGE NEEDS

For all students it is possible to find some PE activities that can be adapted to their needs. However, activities that are altered so drastically that they lose their identity entirely also lose meaning for the student. Consider, for example, a PE unit on swimming for a student who breathes through a trach tube. Adapting the activity by having the student sit in a rubber raft in the shallow end of the pool while wearing a life jacket and being attended by an instructional assistant may make the activity safe enough and possible to do, but it will not make tha activity meaningful for the student. Similarly, a student who lives in a rural area and uses a wheel chair may gain little long range benefit from learning to play wheel chair basketball if he will have no access to the game once he has graduated from high school. In situations such as these it is important for the educational team to work together to find other ways for students to be involved in activities that are personally satisfying.

The team and the student may decide that for a limited period of time, i.e., the duration of the swimming unit, the student's needs can be met best through activities that are done individually but are personally satisfying and likely to be used after graduation rather than through participation with the class in overly modified activities that will have no use during post school years. The student might receive greater long range benefits from developing a hobby such as photographing wild flowers than from playing a game in which all features of the game, or all other players must be adapted to him.

An important role for PE teachers in situations such as these is to promote the learning of meaningful leisure skills that can lead to enjoyable life long leisure activities. If necessary, the PE teacher should offer extra PE credits in independent study so students can get the instructional time needed to support the development of these skills.

SUGGESTED MODIFICATIONS

The following ideas for modifying PE activities are only a few of the many possibilities. We hope they will prompt you to devise other ways to change activities. Activities should be modified only enough to accommodate a student who needs the change in order to participate. Activities should not be altered so dramatically that their identity is lost and students no longer recognize the original activity.

ADAPTATIONS FOR TEAM GAMES

Change the way everyone plays the game.
- all play on knees or sitting on the floor
- all play using only one hand
- all play on scooter boards
- all can choose an alternate piece of equipment, e.g., a smaller ball or a lighter bat

Change the way one opponent plays to equalize the teams.
- one opponent plays on knees, in wheelchair, on walker, etc.
- one uses only one hand
- the student with a disability and one opponent sit on regular chairs in middle of each half court

Change equipment to make it easier for the handicapped student.
- use lighter balls or balloons for throwing and hitting games
- use lighter bats or racquets
- lower net or basketball hoop, move target closer
- play table games on floor
- use glow-in-the-dark tape or equipment for low vision students

Devise specific adaptations for specific games.
- To make a student competitive in baseball, for example, time how long it takes three students to run from home plate to 1st base. Average their times. Have the student with a disability run (or drive his wheelchair) the same amount of time (the average of the three students) and make that the distance he must cover in order to be "safe" at first base.
- Use a T-ball rather than a pitched ball if it will allow the student to participate.
- Brainstorming with the PE teacher before starting a new unit can produce this type of individual planning.

Allow special rules for the student with a disability.
- reduce number of points required to win
- increase number of hits or volleys allowed
- move the student closer to the target
- let student with disability have more tries before ending turn

ADAPTATIONS FOR RACES AND RELAYS

Races that make everyone equal.
- all on scooter boards, on crutches, or in wheelchairs
- all on knees crawling, rolling or scooting on back
- all blowing ping-pong balls while scooting on stomach

One person on each team assumes the same functional ability as the student with a disability.
- use a wheelchair, crutches, or a walker.
- crawl, roll, etc., when competing against student with a disability

Create special role for student with disability and one other student on each team.
- hand out a baton at end of the relay lap
- hold hula hoop that others are tumbling through

Change the distance required for the student with a disability. If he can go half as far as the average student, have him "run" a leg of the race that is half the distance everyone else runs.

ADAPTATIONS FOR MISCELLANEOUS GAMES AND ACTIVITIES

Reduce the size of the playing area.
- change the boundary lines
- increase the number of players
- decrease the height of the net or goal
- use equipment that reduces the range of play
- play net-type games through a hoop

Slow down moving objects.
- change the throwing style to underhand
- throw ball with one bounce, or roll the ball
- increase the size of the ball or use balloons
- station the ball by placing it on home plate or on a tee
- decrease the weight of the ball
- decrease the air pressure in the ball

Modify the rules.

- sit or lie down rather than stand
- walk rather than run
- throw or strike rather than kick
- permit additional trials, strikes, throws, jumps
- allow for substitution
- reduce the time periods of the game
- reduce the number of points needed to win

INDIVIDUAL SKILL BUILDING ACTIVITIES

A student's ability to perform individual skill building activities should be assessed before they are made a part of his PE program. Specifically, the assessment should help pin point skills the student is able to learn but cannot do already and any needed adaptations in equipment or performance. Other tips for introducing these activities are shown below.

Make charts where students can record their own progress.

Allow students to choose skills on which to work.

- have student with disability choose same skills as others, when he can accomplish them
- if the student is unable to do the class activity even with adaptations, have him choose one from the same category, i.e., locomotion, balance, etc.
- adapt when necessary, but keep the same type of chart

Give awards and prizes based on individual growth or goal achievement, not "best" in class.

Let students advance through activities at their own rate.

Help students learn to monitor their own needs, i.e., if tone increases, schedule more stretching.

SIDELINE ACTIVITIES

With a little effort and persistence, most activities can be changed so even students with disabilities can participate in them. However, an activity simply cannot be adapted enough for a student. When this happens, a sideline activity should be planned that can be done in a small area near the regular class activity so the teacher can supervise both activities. Sideline activities should be exceptions and not the rule.

Sideline activities should be developed with building skills as a goal rather than just keeping a student busy. When possible, the student should have several activities to choose among but he should be discouraged from repeatedly doing the same activity out of habit. Some sideline activities can be done alone; others require a partner,

preferably one who views working with the student who has a disability as a privilege. It is usually preferable for the student who has a disability to work with a partner who is not disabled.

Many skill building activities such as shooting baskets, throwing balls, horseshoes or bean bags at a target; or lifting wall weights make good sideline activities, as do wheeling a wheelchair or walking a set distance to increase speed. Regardless of the type of activity, the student should be working toward a specific goal and keeping a record of his progress.

Following are examples of a variety of sideline activities.

ball-on-a-string Suspend from above a soft ball of yarn, whiffle ball or sponge. Use it for hitting, kicking or pushing with the body. Set up a target, if desired. A plastic bat or nylon stocking paddle can be used to hit the ball.

bowling The student rolls a medicine ball or any rubber ball at bowling pins. The pins can be either standard or plastic ones that are filled with sand to give them stability. If possible, the student should retrieve the ball and reset the pins. If the standard method for keeping score when bowling is taught during this activity, the student may be able to transfer it to the bowling alley.

rope pull from a wheelchair While sitting in a wheelchair, the student propels himself forward by pulling on ropes that have been strung on either side of the wheelchair at about elbow height and tied at each end to stationary objects. Sandbags or weights placed on the chair will increase the resistance.

hula hoop badminton Student can practice badminton skills by hitting birdies through a hula hoop suspended in the air. The hula hoop may be low at first and raised as the student's skill improves.

ring toss Using a target made from plywood and dowel pegs, the student tosses rings onto the vertical pegs. If the pegs are painted different colors, the student can use colored rings and earn more points for tossing a ring onto a peg of the same color.

floor ping pong Seated on the floor, the student plays ping pong with a fellow student. The dimensions of a ping pong table can be marked on the floor with masking tape or the game can be played on a standard table with its legs removed and placed on the floor.

bean bag toss Use various targets, placed horizontally or vertically. The student tosses bean bags from increasing distances, working on accuracy. The variations in targets are endless. The student can play alone or with another student.

Activities from Oregon Games for the Physically Limited (OGPL) make excellent substitute activities because they require no extensive equipment and the rule books contain easy to follow instructions. The use of these activities during PE time can help train students for regional OGPL meets. Additional information about OGPL is on page 25 and an article entitled "Physical Education Activities for Children with Severe Cerebral Palsy" is in Appendix C.

LIGHT WEIGHT EQUIPMENT

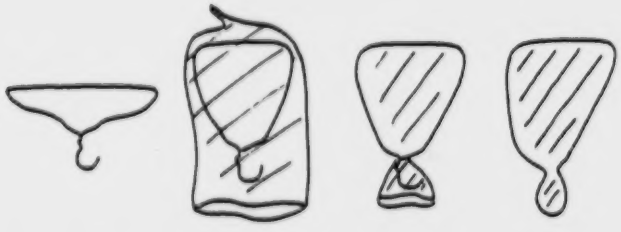
Some students with disabilities will be able to play many more games if they are given light weight, easy-to-use equipment such as that described below. This equipment can be purchased or easily constructed.

Inexpensive light weight plastic bats, softballs, styrofoam balls and whiffle balls can be very useful. The balls travel more slowly than their standard counterparts and are easier to hit. Additionally, the plastic balls are much less likely to hurt a child who is hit by them.

Beach balls and balloons can be used for volleyball or soccer type games. They are large, easy to see and travel more slowly than standard balls. If balloons are used, they should be large and sturdy.

Yarn balls can be purchased or made easily from many pieces of yarn tied together. Scraps of yarn can be gathered and cut into equal lengths. The pieces of yarn are then tied securely together in the center and fluffed out. The more yarn used to make the ball, the firmer it will be. These balls are lightweight and easy to grasp. Koosh balls, (commercially available latex yarn balls) work very well.

Extremely lightweight racquets can be made using a coat hanger, a nylon stocking and tape. The body of the hanger is first shaped into a circular or oval shape. Then the hanger is inserted into the foot of the clean nylon stocking and pushed all the way to the toe. Stretch stocking gently and



tape it to the hanger just above the hook. Trim away remaining stocking. Bend hanger hook up to form handle. Wrap tape around the handle and the end of the stocking to secure it and form a comfortable grip. These racquets can be used to play games such as badminton, tennis or floor hockey with balloons, birdies or small yarn or sponge balls.

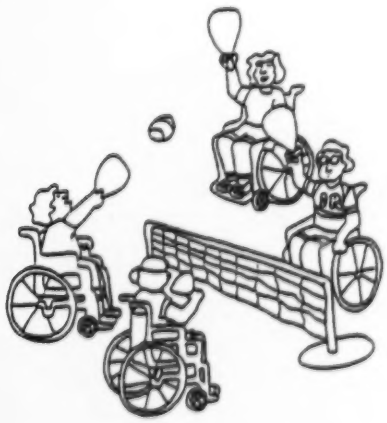
Light weight and inexpensive ball scoops can be made from on half or one gallon plastic bleach bottles by cutting off the base of the jug with an exacto knife and smoothing the rough edges with sand paper.

SOME ADAPTATIONS FOR INDIVIDUAL AND DUAL SPORTS

archery Use lighter bows and put rubber tips on the arrows. The student can shoot from a sitting position. Make large targets or have the student move closer to a standard target. Some students may need to use both feet to hold the bow and both hands to pull and release.

bait-fly casting Place target boards on the gym floor or in the field at various distances from the student. Use a sitting position.

badminton Four players on each side, in areas marked by tape. Hoopbird can be played by a student who sits in a wheelchair or standard chair and hits a bird or yarnball through a suspended hula hoop.



bicycling Use a three-wheel bicycle or tricycle.

bowling Use plastic "gym-bowl" equipment, plastic detergent bottles or milk cartons. Student may bowl from a chair or while sitting on the floor. Roll ball through a cardboard tube or box or down a ramp.

croquet Use plastic mallets and whiffleballs, vary the distance to the wicket.

golf Hit plastic practice ball into old tennis or volleyball nets which are faced with burlap. Putt on old rug into a can placed on its side. Create a miniature golf course.

horseshoes Rubber shoes or quoits can be used in and out of doors. Throw the shoes into a box. Use a sitting position.

rollerskating Use a walker, a scooter or even a wheelchair.

shuffleboard Shorten distance between scoring zones. Use a sitting position.

table tennis Lower the table or play on the floor. Use larger paddle, make small table-size hoop and play as "hoopbird." Place cardboard sides on the table so the ball will not bounce off the table as often; off the sides, ball is in play. Use lightweight "nerf" equipment.

tetherball Sit or stand, punch or kick. Make small table-size game with stick or plastic bat and small rubber ball, yarn ball or nerf ball. Or, suspend the ball from a horizontal support rather than a vertical one so the ball stays within reach for a student who plays while sitting.

GUIDELINES

As a therapist, you are familiar with a student's diagnosis, his limitations and his strengths. Teachers who are unaware of these will appreciate information about them from you.

Following are some guidelines for dealing with different situations that you may want to share with teachers.

Stress activities the student can do, especially early in the term when the other children are forming their impressions of him.

Point out the student's ability to participate in a variety of activities. Many teachers assume a child with an orthopedic impairment is more fragile than other children.

If the student tires easily, schedule time for him to rest and recover.

Provide frequent practice in correct ways to fall from crutches, wheelchair or unsupported positions.

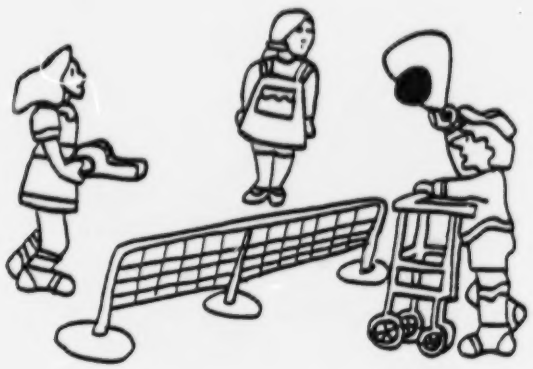
Recognize that not every activity can be adapted and that the child with a disability need not participate in all activities. Be realistic and strive for a balanced approach. Sometimes the other students need to play fast, run hard and expend pent-up energy.

Plan a back-up activity in case the one you planned does not work.

Suggest a variety of positions such as floor sitting and standing table the child can use for activities.

Do not overwhelm the student with too many new, demanding activities, especially those involving catching fast moving balls, moving about in large groups or other activities at which he has limited experience.

Point out activities that are contraindicated for the student. Write them down and give copies to the PE teacher and casemanager. Remember that just because a particular PE activity elicits a primitive or pathological pattern or increased muscle tone, it is not automatically contraindicated because the primary goal of PE may be participation in the activity not normalization of reflexes and tone. The physical therapist is the best person to discuss this concept with the PE teacher.



CONSIDERATIONS FOR DIFFERENT HANDICAPPING CONDITIONS

In addition to these general guidelines, there are specific things to consider for different handicapping conditions.

spastic cerebral palsy
- Movements that are continual in nature are easier to perform.
- Movements that are slow and constant are easier to perform.
- Stress extension and stretching activities.
- A student with cerebral palsy expends about 30 percent more effort when doing the same activity as a student who does not have cerebral palsy. Therefore, activities that require a high level of cardiovascular endurance should be limited.

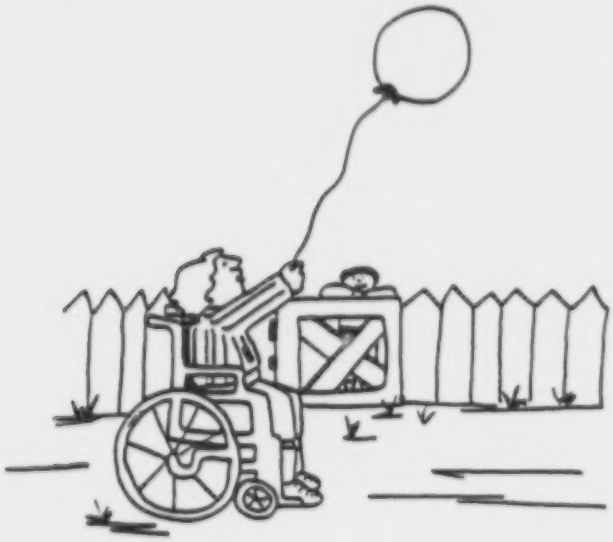
athetoid cerebral palsy
- Teach the student to relax between movement to quiet motions.
- Concentration and relaxation during the activity will improve performance.

spina bifida
- Plan activities that will build upper body strength and skills.
- Strive to strengthen lower body only <u>if</u> muscles have tone.
- Develop visual awareness of non-feeling areas to help protect from bruises, blisters and rubbed sores.
- Avoid activities that involve a lot of twisting, bending or lifting.
- If the student has a shunt, avoid activities that put his head lower than his feet.
- Flaccid lower extremities are vulnerable to fractures if legs are not restrained from becoming tangled in equipment.

muscular dystrophy
- Keep as active as possible for as long as possible.
- Select flexibility activities, especially for feet, ankles and knees.
- Stress endurance and strengthening activities to offset decreasing endurance from effects of disease, but do not overwork the student.
- Be prepared for diminishing abilities and plan ahead for alternatives to replace present activities.
- A swimming program can be especially beneficial.

epilepsy

- Plan activities that minimize differences and emphasize the child's very normal functional ability.
- Include the student in all activities except those involving extreme heights, such as rope climbing.
- Remember exercise is good--vigorous activity tends to diminish the frequency of seizures.



osteogeneses imperfecta

- Include this student in only those physical activities that are cleared by his physician. Fractures occur easily.
- Utilize his advanced intellectual and verbal abilities to learn rules, keep score, be a team captain, etc.
- Use light weight equipment such as nerf balls.
- Swimming is a good activity for this student.

cystic fibrosis

- Watch this student carefully for early signs of fatigue.
- Encourage coughing to clear mucus from lungs.
- In hot weather, allow him to play strenuously only if you are certain he is receiving adequate salt intake.
- Allow frequent drinks of water and trips to the toilet.

arthrogryposis

- Include this student in all activities and provide him with light weight, adapted equipment when needed.
- Avoid excessive weight bearing.

ADAPTING PE IN SELF-CONTAINED CLASSES

Under conditions when a PE program is conducted for a group of students from a self-contained special education classroom, it is safe to assume that all of the students have a physical disability, a learning problem, or both. As such, these students will require a PE program in which not only the games and activities are adapted for them but the structure, or format of the program is adapted as well. The modifications in activities and games already discussed can be used in both self-contained and integrated classes.

Some strategies for managing a self-contained PE class are discussed below. They are taken from Speck, Schaeffer and Starck (1986). * These authors stress modifying the classroom structure and using approaches that make instruction concrete, consistent and functional during each segment of the class schedule.

OPENINGS

Openings in self-contained classrooms are usually more structured than they are in integrated classrooms. Openings should be constructed so they prepare students to anticipate what will be expected of them during the rest of the class. Therapists may want to suggest some of the following ideas to teachers.

- Post pictures showing the day's activities on the wall near the entrance to the class to give students a concrete view of the day's activities. The pictures can be crudely drawn or elaborately photographed.

- Use ticket calendars to start the warm-up activity. A slotted board with each of the student's names on it is the calendar. When the students enter the classroom, they take a PE ticket and place it in their slot to help them understand they are now in PE. Students also can be given concrete objects such as miniature balls or paddles that will help them understand what is expected of them.

- During the warm-up activity, introduce some or all of the equipment that will be used in the PE activity. The use of concrete objects will help students make the transition to the next activity.

- Use the same warm-up routine repeatedly so students can learn it and so it can serve as a signal to prepare them mentally as well as physically for the next activity. For example, the warm-up might be a fitness run around the gym that ends at the circle where the main activity will take place, or stretching in place on the circle. It may help to post pictures of the stretches or any activities that are used.

* Adapted Physical Education Manual, Motor Team. Salem, Keizer School District, 575 Commercial, SE; Salem, OR 97302. Phone (503) 399-3300. Available for $5.00 to cover the cost of printing and handling.

TEACHING ACTIVITIES

Students who have disabilities need instruction that is well structured. Activities should be taught as a single flowing process rather than as a series of separate steps because most students will be unable to put together separate steps. For instance, when teaching a complex skill such as dribbling a basket ball, do not separate it onto holding, dropping and catching. When teaching students to shoot a basket ball, have them handle the ball rather than just watch a demonstration.

Teach the whole idea first, then introduce higher level or alternative skills. For example, after the student can bounce the ball using both hands, have him do it with only one hand and give him something specific to do with the other hand. For example, instruct him to, "put one hand on your knee and bounce the ball with your other hand."

If there is a wide variety of skill levels in the class, it may help to group students by ability and plan slightly different tasks for each group. For example, in basketball one group might shoot baskets at regulation hoops, a second group might shoot at lower elastic hoops and a third group might roll a ball through hula hoops at floor level.

Reverse mainstreaming (inviting nonhandicapped students into class) is a good strategy. It brings other students into the classroom who can model how to do activities and how to behave and these students usually can give assistance when it is needed.

TRANSITIONS

Transitions from one activity to another should be managed by preparing students before hand to understand that a change is to occur and that what is expected of them will be changing.

- Give precise and clear closure to activities so students understand that they are over. This will help ease students into the next activity. For example, when students are about to complete an activity, tell them, "one more time, this is the last time, do it with a partner and then we'll stop."

- When using stations for activity areas, staff members should remain with their groups so students can come to associate the staff member, the area, the group and the activity with one another. This will reduce the likelihood that students will leave their group and thus increase their time engaged in learning activities.

. Show students drawings or pictures of the next activity to prepare them to make a smooth transition.

. When a group of students is waiting, have a staff person lead them in an activity such as stretching, or running in place. Keep students busy.

CLOSINGS

Almost any well thought out closing activity will work as long as it is used consistently.

> Group students in the same area of the gym for the closing activity at the end of the PE period. The area should be clearly delineated by a circle marked on the floor or a rug, and it should be away from doors and equipment that could distract students.
>
> One way to end the PE class is to have students get their tickets from the ticket calendar before lining up. The teacher can mark their tickets with a pen or stamp and let them take the ticket home, or, in lieu of a ticket calendar, the teacher can simply stamp the students' hands.
>
> A student who has difficulty lining up or waiting his turn can be assigned to do an alternative activity such as putting away the equipment. He can be instructed to take his card to the instructor after finishing his job (and after the other students have had their cards signed). This way, the student will not have to wait in line.

LESSONS

The following lessons from the manual developed by Speck, Schaeffer and Stark (1986), are included here as examples of lessons. These well organized activities were developed for students who have cognitive delays and physical disabilities.

LESSON FOR JUMPING

WARM-UP

song Sung to the tune of "Here we go round the Mulberry Bush." This is the way we...

...swing our arms,
...bend our knees,
...bend and swing
...on a Monday morning

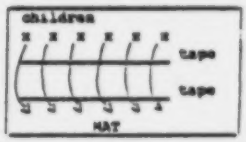
exercise Students sit in a long sitting position and reach for their toes to stretch in preparation for jumping.

ACTIVITIES

Use one or more of the following activities to teach jumping skills. The activities can be set up at separate stations or used consecutively with the whole class.

Hoop Trail Arrange hoops side by side to form a curved line. Students follow the trail by jumping in each hoop.

Over the River Mark a "riverbank" by laying two parallel strips of tape 6 inches apart. On successive days, as the students' skills improve, place the strips increasingly further apart (up to 24 inches). Make tape long enough so all students can jump instead of wait in line.



Jump and Reach Students jump to reach a suspended object such as a tether ball or balloon.

Rebounder While counting aloud, students do a standing jump over a marked line. Students jump forward, backward, and sideways as directed.

GAME

Students run an obstacle course made up of the jumping games described above: Hoop Trail, Over the River, Jump and Reach, Rebounder and jump down from a stack of mats.

CLOSING

Students clean up and go to the closing circle.

LESSON FOR KICKING

WARM-UP

song If you're Happy and you Know it...
...kick in front,
...kick to side,
...kick to back

exercise While long sitting in a circle, students reach forward to their knees, ankles and toes as directed in order to stretch in preparation for the kicking activity.

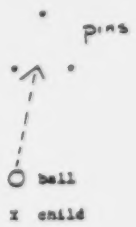
ACTIVITIES

Use one or more of the following activities to teach kicking skills. The activities can be set up at separate stations or used consecutively with the whole class.

Kick to Target the student puts the ball on the floor and kicks between two cones and into a box that is turned on its side and placed against a wall.

Surprise Ball The teacher rolls balls of different sizes, weights, textures and colors slowly and directly toward a student who then kicks them back. The student goals are to grade the intensity of the kick so the ball goes to the teacher, and to adjust the kick to different types of balls.

Kick Pin Student kicks a large ball to knock down three pins (or other objects). The students who are waiting help reset the pins.



GAME

Kick Ball, adapted
- run to one base and back
- no teams or score
- everyone gets a turn
- lots of encouragement and recognition for the student's efforts

CLOSING

Students clean up and go to the closing circle.

LESSON FOR VISUAL TRACKING TO ENHANCE BALANCE AND EYE-HAND COORDINATION

WARM-UP **exercise** While sitting in a circle, each student holds something in his hand such as a ball, balloon or beanbag and passes it on to the next student.

ACTIVITIES Use one or more of the following activities to teach visual tracking skills. The activities can be set up at separate stations or used consecutively with the whole class.

Moving Target Students throw bean bags through a hula hoop as the teacher moves it through space.

Balloon Toss Students bat at a suspended balloon. Students tap balloons up in the air.

Snake Students try to stomp on a long rope as it is wriggled in front of them by an adult. The adult wiggles the rope over a wide area so the students have to move to step on it.

GAME **Big Box of Balls** (soft string balls, tennis size nerf balls and balloons). The students assemble in a circle. The leader, in the center with a box of balls and balloons says, "Ready, set, go," and throws the balls in the air. The students chase, pick up the balls and balloons and put them back in the box. In this game, the holder of the box is a prized position. Students who are unsuccessful in other activities can be successful with this job.

CLOSING Students clean up and go to the closing circle.

LESSON FOR CATCHING

WARM-UP

song Shake your Sillies

I'm gonna shake, shake, shake my sillies out
(shaking hands)
I'm gonna jump, jump, jump my jiggles out
(jumping while swinging arms)
I'm gonna clap, clap, clap my crazies out
(clapping hands)
I'm gonna kick, kick, kick my kinkies out
(kicking)
chorus: and wiggle my waggles away
(wiggling hips)

Row, Row, Row your Boat Paddle, Paddle, Paddle your boat: Students long sit while in a circle. To row, they move their arms forward alternating in a rowing motion. (To paddle, they rotate their trunk and move both arms to alternate sides.)

exercise Students roll a ball around the circle to the person next to them and catch it as it comes to them. They roll the ball in the reverse direction to the person on the other side of them. Coach students to call the name of the person the ball is being rolled to.

ACTIVITIES

Bat Away Suspend a tether ball from a rope, swing it gently while the student tries to catch and stop it.

Up and Down Catch Students in a sitting position catch a ball that has been rolled, then a ball bounced lightly, alternate each time. Kneel doing the same. Stand doing the same.

Beanbags Students catch beanbags the teacher throws to them low and high.

GAME

Over and Under Bean Bags While standing in a circle the students hand the bean bags over their heads to the next student. Then they hand the bean bags under their legs to the next student. When students have mastered these two steps, have alternate students stand or sit in a circle and hand the beanbag under (when standing) or over (when sitting).

CLOSING

Students clean up and go to the closing circle.

LESSON FOR THROWING

WARM-UP

song Sung to the tune of "Here we go 'round the Mulberry Bush"

This is the way we...circle our arms,
...circle to front,
...circle to back,
...swim with our arms
(reciprocal arm movements)
...twist our trunk
(arms up, elbow to opposite knee)

exercise While long sitting, students reach for their socks.

ACTIVITIES

Hot Potato Students sit in a circle within reach of one another and pretend that a ball or frisbee is "too hot to handle." they pass the object on to the person next to them as fast as possible. Students may pass the object by tossing, rolling or handing it. For variation, students pass the ball in the opposite direction.

Softball Throw Throw for distance (overhand and underhand). Cue for opposite foot forward

Target Throw Students throw beanbags or ping pong balls with velcro glued on them at a velour target.

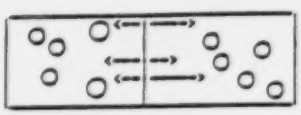
Throw and Catch Students use velour mitts to catch beanbags or balls fixed with velcro.

Frisbee Throw for distance through a hoop and into a hoop on the ground.

GAMES

Adapted Volleyball Using a low net, students throw and catch a beach ball, nerf ball, balloon or yarn ball across the net.

Clean Out Your Backyard Two teams have an equal number of soft balls such as nerf balls or yarn balls on each side (10-15 balls). The more balls used, the better the game. Emphasize good throwing techniques. Directions: "Go, throw your balls onto the other side as fast as you can." Stop. Count. The yard with the fewest balls is the cleanest.



CLOSING

Students clean up and go to closing circle.

ORGANIZED SPORTS OPPORTUNITIES

SPECIAL OLYMPICS, INC.

This national organization publishes excellent material for developing sports skills in students with disabilities. The material includes suggestions for coaching students and directions that are based on detailed task analysis. Their address is 1350 New York Avenue, N.W., Suite 500, Washington, D.C. 20005.

OREGON SPECIAL OLYMPICS (OSO)

Special Olympics is an international program of physical fitness, sports training and athletic competition for children and adults with mental retardation. It is unique in that it accommodates competitors at all ability levels by assigning them to "competition divisions" based on both age and actual performance. Even athletes in the lowest divisions may advance all the way to the International Games.

purpose Special Olympics contributes to the physical, social and psychological development of mentally retarded participants. Through successful experiences in sports, they gain confidence and build a positive self-image associated with success rather than failure. Success on the playing field often carries over into the classroom, the home, and the job.

participation Persons eligible for participation in Special Olympics must be at least eight years old and classified as mentally retarded, or identified as handicapped because they have cognitive delays and significant learning or vocational problems (to the extent that, if of school age, they are receiving specially designed instruction for at least 50 percent of their instructional day).

sports Special Olympics offers 17 official sports: track and field, swimming, diving, gymnastics, ice skating, basketball, volleyball, floor hockey, poly hockey, bowling, frisbee-disc, softball, soccer, cross country and downhill skiing and wheelchair events. Almost all other Olympic sports are offered as demonstration sports in the Special Olympics.

games A key feature of Special Olympics is a series of Olympic-type events held annually at each organizational level. Games provide all the pageantry and excitement of regular International Olympic Games with opening and closing ceremonies, awards presentations, and associated cultural activities.

local games Over 20,000 Local Games are held year-round in communities all over the world. Ninety-six percent of all counties in the United States are now participating.

OREGON SPECIAL OLYMPICS (continued)

chapter and national games These are usually scheduled in May and June each year. In recent years, over 750,000 participants competed in Chapter Games in the U.S. In addition, almost 250,000 competitors took part in National Games around the world.

international games These are held every four years. The 1987 International Games were held at Notre Dame University with participants from 50 states in the U.S., the District of Columbia, Puerto Rico and seven other countries.

OREGON GAMES FOR THE PHYSICALLY LIMITED (OGPL)

This private, non-profit charitable corporation provides competitive and adapted games and sports designed for the abilities of physically limited individuals of all ages in Oregon and the Pacific Northwest.

OGPL is for people who have physical limitations regardless of what their intellectual ability is while Special Olympics is for people who have mental retardation.

OGPL unique programs offer adapted sports unavailable through any other group for people with conditions such as cerebral palsy and muscular dystrophy. OGPL provides highly adapted, mostly indoor events which emphasize active and positive use of motor skills and competition with others of equal ability. OGPL adapted events include a 50-yard dash with heats for people who are ambulatory-unaided or use crutches, wheelchairs, or scooter boards; softball or bean bag tosses (instead of shot put); "body bowling" - athlete uses body to knock over pins; and others. OGPL differs from Special Olympics in that it serves people with primary permanent physical limitations, while Special Olympics serves people with mental limitations.

OGPL has two types of programs: entry level and open.

The entry level program provides adapted sports for people who have physical limitations. Emphasis is on participation, low-key competition with others of roughlyequal ability, and socialization. Awards are given for first through fifth places and everybody gets a ribbon.

The open programs provide traditional type sports that meet national handicapped sports organization's specifications. Here, the emphasis is on training, development of skills, keen competition against all comers, and excellence. There is only one "first place" in each event. Persons who have the drive and determination, compete in "open" meets.

OGPL's state meet in Salem is always held on the first Saturday in April. Regional meets are held throughout the state. For more information, write or phone the OGPL office at P.O. Box 665, Salem, OR 97308; phone (503) 362-5501. The OGPL state office is at 189 Liberty, NE, Room 206, Reed Opera House, Salem.

APPENDICES

APPENDIX A

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APPENDIX B
Oregon Special Olympics
Roster of Area Directors

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Portland, OR 97232
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Area #18 Columbia County S.O.
Ruth Cox
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St. Helens, OR 97051
W: 397-2805

Area #19 Klamath/Lake S.O.
Steve Eddy
1304 Crescent Ave.
P.O. Box 164
Klamath Falls, OR 97601
W: 883-5025 H: 883-2521

Area #19 Klamath/Lake S.O.
Karen White
723 N 1st
Lakeview, OR 97630
W: 947-3753 H: 947-4484

Area #20 Mid Oregon S.O.
Frank Ellis
230 E. 6th
Bend, OR 97701
W: 388-5478 H: 382-3818
Office: 388-3965

Area #21 Mid Columbia S.O.
Carole Schmidt
Hood River Sports Club
3230 Brookside
Hood River, OR 97031
W: 386-3230 H: 478-3716

Area #22 Harney County S.O.
Nancy Hardie
Burns High School
Burns, OR 97720
W: 573-2044 H: 573-7490

Area #24 Morrow/Umatilla S.O.
Doris Boatright
625 W. Hermiston Ave.
Hermiston, OR 97838
W: 567-6427 H: 567-8886

Area #24 Morrow/Umatilla S.O.
Mary Bousquet
880 E. Kennedy Ave.
Hermiston, OR 97838
W: 567-6427 H: 567-1881

Area #26 Baker County S.O.
Mary Cunningham
2090 4th St.
Baker, OR 97814
W: 523-5817 H: 523-2600

Area #27 Union/Wallowa S.O.
Kay Hulden
1000 East St.
LaGrande, OR 97850
W: 963-1969 H: 963-4809

PHYSICAL EDUCATION ACTIVITIES

for Children with Severe Cerebral Palsy

Sue Ellen Miller
Ken Schaumberg

■Genetically and developmentally, every child is different from every other child, and teachers must take these individual differences into account when planning special activities. When extreme physical limitations broaden the range of children's abilities in a physical education classroom, the teacher is legally required to make special arrangements, which demand more planning time and more creative thinking. According to Public Law 94-142, the Education for All Handicapped Children Act of 1975, every handicapped child has a legal right to either regular or adapted physical education. The terms *adapted physical education* or *special physical education* refer to specially designed instruction that meets the individual motor and fitness needs specified in a child's individualized education program.

Many physically handicapped children can participate in the rigors of regular physical education safely and successfully. Others can be integrated into selected physical education activities but not all activities. For children who cannot participate wholly or even partially in regular physical education classes, adapted physical education activities must be planned and implemented (Ohio Department of Education, 1986). Severely involved spastic cerebral palsied children are included in this category of students who require creative programming.

Cooperative Planning

To program effectively, teachers must have a basic understanding of spastic cerebral palsy. Care must be taken to assure that the activities designed for a particular child are not counterproductive to the aims the physical therapist is trying to accomplish in that child's therapy session. The physical therapist can explain and demonstrate what the characteristic spastic muscle actions are for the child and can be helpful in determining the correct positioning for physical education activities to prevent the child from reverting to primitive reflexes (Sherrill, 1986). Understanding the characteristics of spastic cerebral palsy, the teacher can design physical education activities that are fun and challenging for the child and complement the work of the physical therapist.

The first step in planning an appropriate physical education activity is to analyze the skills involved and decide whether components of a particular skill need to be changed or adapted to ensure success for the child. For example, what does the body do during a kicking, throwing, or striking motion? How much speed is involved in the activity? How much space and what types of equipment are needed? What criteria for success will be applied? Once questions such as these are answered, the adapted physical education teacher must create or adapt activities that counteract whatever spastic motor pattern predominates in the child.

Suggested Activities

Suitable for severely involved spastic cerebral palsied children, the following gross motor activities can be used by classroom teachers, adapted physical education teachers, physical therapists, occupational therapists, parents, or teacher aides. The activities were designed in consultation with a physical therapist and have been used successfully with elementary and middle school students in two Ohio school districts (S. Mark, personal communication, April 28, 1986). Based on the author's observations, the students thoroughly enjoyed the activities, looked forward to the sessions, and increased in skill level and self-confidence. Teachers, therapists, or parents can make adaptations to meet children's individual needs.

Four-Pin Stretch

The child is placed prone on the elbows in the center of a rectangular mat, with four wooden Indian clubs or plastic bowling pins placed within 30 cm of each corner of the mat. Given a signal, the child tries to knock down each pin with hands or feet (Figure 1). The child may move around the mat in the prone-on-elbows position or in a side-lying position. The child must remain on the mat and cannot touch any part of the floor. Depending on the skill level of the child, the instructor can make further adaptations as follows:

1. Increase or decrease the size of the mat or the distance of the pins from the child.
2. Require a "controlled" knockdown so that the club does not roll off the mat and touch the floor.
3. Require only hand or only leg use.
4. Require the pin or club to be grasped and held in the air with a straight arm (an alternative to knocking down the pins).
5. Allow a helper to assist to ensure success (e.g., help the child change positions if he or she gets "stuck").

Sitting T-Ball

The instructor is in a V-sit position. The child is propped up, also in a sitting position, between the instructor's legs. An assistant holds a ball to the side of the child within arm's length. The child then swings an extended arm outward at the ball using outward rotation and extension of the shoulder, both positive movements for a spastic child (Figure 2).

Hit and Move

The child is in a side-lying position on a mat. The instructor places a ball on the mat at any position within reach of the child. With an extended arm swing, the child contacts the ball with the palm or back of the hand (Figure 3). The ball should be placed as close as necessary to the child to ensure extension and success. The child may use the top or bottom arm. Once the child can strike the ball on command, the instructor adds the signal, "Elbows," which prompts the child to move to the prone-on-elbows position and watch the ball. In addition to performing a beneficial motor skill, the child is now better able to view the ball as it rolls away, which serves as reinforcement.

Soccer Kick

The instructor sits in a chair with the child sitting between his or her legs. The buttocks should be pulled back so that the child is in a good, straight sitting position with feet flat on the floor. The instructor must place a hand on one knee to hold the foot in place. The child then uses the free foot to kick a ball that has been placed within reach by an assistant (Figure 4). In this activity, the child strives for a good extension of the knee while transferring weight in a sitting position. This activity is repeated with the other leg. Placing the ball on a bean bag will keep it stationary.

Wheelchair Knockdown

Many individuals with severe cerebral palsy are unable to operate a manual wheelchair and so must use a motorized one. This activity teaches control of the chair while adding a bit of fun and challenge. The instructor places several bowling pins around the room in hard-to-get-at places. The child must guide the wheelchair to each

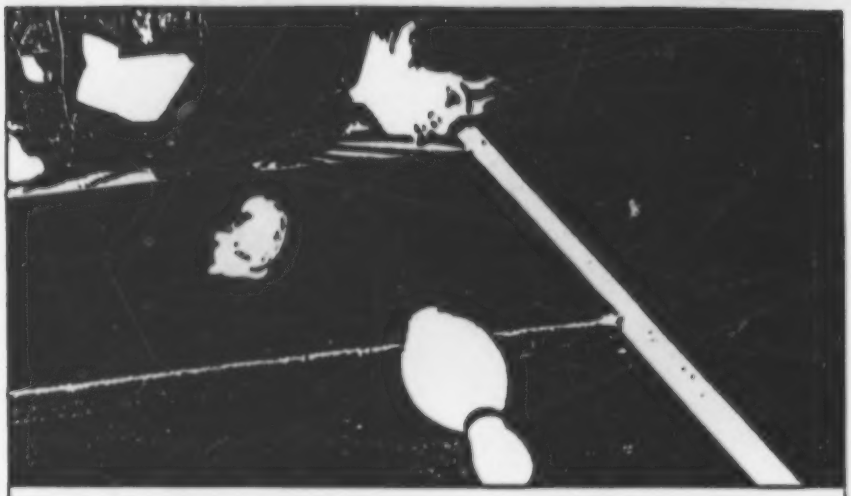

Figure 1: The child struggles to maintain a prone-on-elbows position as he knocks down a plastic bowling pin in the four-pin-stretch activity.

Figure 2: Deliberate and controlled horizontal extension is the objective in this sitting T-ball activity.

Figure 3: In this hit-and-move activity, the child should be encouraged to strike the ball so that it rolls in a longitudinal direction above the head.

Figure 4: In the soccer kick, the instructor should insist that the child hold the kicking foot stationary until each succeeding ball has been placed on the bean bag.

Figure 5: The child makes the decision independently as to the distance and spatial relationship of the wheelchair to each pin. This is learned through experience.

Figure 6: In tetherball, the child uses one hand to bat.

ized one. This activity teaches control of the chair while adding a bit of fun and challenge. The instructor places several bowling pins around the room in hard-to-get-at places. The child must guide the wheelchair to each pin, reach over the side of the chair, and knock the pin over with a hand (Figure 5). The pin cannot be knocked over with the chair. For an added challenge, the instructor can place other objects such as furniture or physical education equipment in the room to increase the child's maneuvering skills.

Tetherball

From a good sitting position, either assisted on a bench or straight chair or in a wheelchair, the child strikes a suspended ball using a plastic baseball bat. An empty milk jug or other plastic container can substitute for a ball, and a stick or old racket can substitute for a commercial bat. If possible, both hands should be used and the standard batting technique should be taught. However, if the severity of spasticity prevents the use of two hands, one hand may be used as illustrated in Figure 6. If necessary, an ace bandage may be used to tape the bat into the hand(s). This activity promotes trunk rotation and attention to controlled batting technique.

Conclusion

Too often, severely involved spastic cerebral palsied children are excluded from physical education activities because "there's nothing they can do." Another reason for exclusion may be that normal physical education activities elicit in these children primitive reflexes that physical therapists are trying to diminish. However, the activities described in this article are evidence that by working cooperatively, adapted physical educators and physical therapists can provide children with severe cerebral palsy safe, beneficial, and enjoyable physical education activities.

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Ohio Department of Education. (1986). *Implementing physical education for handicapped children.* Columbus, OH: Author.

Sherrill, C. (1986). *Adapted physical education and recreation* (3rd ed.). Dubuque, IA: Wm. C. Brown Publishers.

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APPENDIX D
Resources

The organizations and publications listed below are taken from an article published in the Muscular Dystrophy Association Magazine, Vol. IV, No. 1 Spring, 1989. For information, please write to the addresses indicated. There also may be local organizations in your area.

Organizations

Achilles Track Club, 9 E. 89th Street, New York, NY 10128.

American Wheelchair Bowling Assn. N54 @I5858 Larkspur Ln., Menomonee Falls, WI 53051.

Handicapped Scuba Association, 1104 El Prado, San Clemente, CA 92672.

International Wheelchair Road Racers Club, 165 78th Ave.,NE, St. Petersburg, FL 33702.

National Association for Disabled Athletes, 17 Lindley Ave., Tenafly, NJ 07670.

National Foundation for Happy Horsemanship for the Handicapped, PO Box 462, Malvern, PA 19355.

National Foundation of Wheelchair Tennis, 15441 Red Hill Ave., Suite A, Tustin, CA 92680.

National Handicapped Sports and Recreation Association, PO Box 33141, Farragut Station, Washington DC, 20033.

National Wheelchair Athletic Association, 3617 Betty Dr., Suite S, Colorado Springs, CO 80907.

National Wheelchair Basketball Association, 110 Seaton Building, Univ. of Kentucky, Lexington, KY 40506.

National Wheelchair Softball Association, PO Box 22478, Minneapolis, MN 55422.

North American Riding for the Handicapped Association, 111 E. Wacker Dr., Chicago, IL 60601.

Wheelchair Motorcycle Association, 101 Torrey Street, Brockton, MA 02401.

Publications

Sports 'N Spokes, 5201 N. 19th Ave., Suite 111, Phoenex, AZ 85015.
Disabled Outdoors Magazine, 5223 S. Lorel Ave., Chicago, IL 60638.

Access to Recreation (catalog), 2509 E. Thousand Oaks Blvd., Suite 430, Thousand Oaks, CA 91362.

Products to Assist the Disabled Sportsman (catalog), J.L. Pachner, Ltd., PO Box 164, Trabuco Canyon, CA 92678.

Spinal Network, PO Box 4162, Boulder, CO 80306-9906.

Written Resources

Adams, R., Daniel, A., McCubbin, J., and Rullman, L. Games, Sports and Exercises for the Physically Handicapped (3rd ed.) Philadelphia, PA. Lea and Febiger, 1982.

Auxter, D., and Pyfer, J. Adapted Physical Education and Recreation (6th ed.) St. Louis, MO. C.V. Mosby Co., 1989.

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Dunn, J. M.; Morehouse, J. W.; Fredericks, H.D., Physical Education for the Severely Handicapped PRO-ED Inc., 1986.

Fernhall, B., Tymeson, G.T., and Webster, G.E. "Cardiovascular Fitness of Mentally Retarded Individuals" in Adapted Physical Activity Quarterly, 5:12-28, 1988.

Finholt, Joan M.; Peterson, Belinda A. and Calvin, Nola R. Guidelines for Physical Educators of Mentally Handicapped Youth, Curriculum Assessment IEPs. Charles C. Thomas, Springfield, Illinois, 1987.

Owens, D. (Ed.) Teaching Golf to Special Populations. New York. Leisure Press, 1985.

Paciorek, M.J., and Jones, J.A. Sports and Recreation for the Disabled, A Resource Manual, Indianapolis, IN. Benchmark Press, 1989.

Sherril, C. (Ed.) Leadership Training in Adapted Physical Education. Champaign, IL Human Kinetics Publishers, 1988.

Sherril, C. Adapted Physical Education and Recreation, (3rd ed.) Dubuque, IA Wm. C. Brown Publishers, 1986.

Wehman, Paul; Schleiter, Stuart; Leisure Programs for Handicapped Persons, PRO-ED Inc., 1981.

Winnick, J.P. and Short, F.X. Physical Fitness Testing of the Disabled. Champaign, IL Human Kinetics Publishers, 1985.

Video Resources

Armchair Fitness (videocassette (VHS & BETA), color, 20 minutes each), CC-M Productions, Inc.

This videotape shows an aerobic workout that can be done in a chair by people who avoid vigorous activity because of preference, lifestyle, age, or disability. The workout includes three 20-minute stretching and strengthening routines done to the sound of big band-style music.

Beginnings=m Images of Excellence (videocassette (VHS), color, 9 minutes), open-captioned or noncaptioned) US Olympic Committee

Using profiles of athletes who have a variety of disabilities, this videotape provides and introduces a wide range of competitive sports available to people with disabilities.

Fitness is for Everyone! (videocassette (VHS & BETA), color 30 minutes each), NHSRA/INVACARE, c/o Wyse Public Relations
These four 30-minute aerobic dance routines and a routine for developing strength and flexibility can be purchased separately or as a set. The routines are led by professional fitness instructors and demonstrated by athletes who are disabled by conditions such as amputation, paraplegia, quadriplegia and cerebral palsy.

From Wheelchair to Water (videocassette 1/2 inch and 3/4 inch VHS & BETA), color, 15 minutes), American Rehabilitation Educational Network.

This 15-minute tape introduces swimming therapy, encourages participation in recreational activities and tells about recreation that is available to people with spinal cord injuries.

I Can Series (16mm, color, sound, four 12-minute films) Hubbard Press

These films are designed to aid in implementing the I Can Unit 1 physical education program for children with handicaps. the films present skills and demonstrate how to analyze, establish criteria for that skill, and use them as both diagnostic and prescriptive elements in structuring a program. Film in the series are:

Fundamental Skills: Object Control Part 1 (underhand throw, underhand roll, overhand throw, catch)

Fundamental Skills: Object Control Part 2 (kick, bounce, underhand strike, sidearm strike)

Fundamental Skills: Locomotor Skills Part 1 (run, horizontal jump, hop, skip)

Fundamental Skills: Locomotor Skills Part 2 (leap, vertical jump, gallop, slide)

International Special Olympics (16mm, color, sound, 11 minutes) Special Olympics, Inc.

This film, narrated by Pat Somerall, captures the spirit and excitement of the Special Olympic Games.

MS Workout (videocassette, color, 30 minutes) National MS Society.

Originally developed for people with multiple sclerosis, this exercise videotape also can benefit those with neurological problems.

No Simple Road (16mm, videocassette (VHS & BETA II), rental, color, 18 minutes), Crystal Productions

The excitement and joy of children engaged in outdoor sports and activities is reflected in this award-winning presentation by Len Aitken. Produced for Children's Hospital in Denver, the 18-minute film shows children who have disabilities experiencing the pleasures of rafting, fishing, hayrides, mountain excursions, and other play activities.

Physical Education for the Orthopedically Handicapped (VHS, color, 18 minutes), Bernie Lee Creative Enterprises.

This videotape presents adaptations that can be made in physical education programs that will assist orthopedically impaired youngsters move toward the mainstream.

Reach for Fitness (videocassette (VHS & BETA), color, 45 minutes), Lorimar Home Video.

This custom workout, created by media personality Richard Simmons, is designed to address the fitness needs of people with a wide range of physical disabilities. The program was developed with the assistance of specialists at Los Angeles Orthopedic Hospital and physical therapists throughout the country.

Sit and Be Fit (videocassette, color) Sit and Be Fit.

"Sit and Be Fit" is a vigorous workout for sitting people of all ages. It provides a complete upper-body conditioning program, scientifically designed for safety and results. It is designed to promote better

posture, more strength and muscle tone, greater flexibility, increased total body circulation, and improved energy and confidence.

Sled Skiing for the Handicapped (videocassette (1/2 inch VHS & BETA), color, 28 minutes), American Rehabilitation Educational Network.

Using documentary-style presentation, this videotape gives a personal view of a two-day sled-skiing program held at the Hidden Valley Ski Resort in western Pennsylvania. On-slope footage and interviews with the participants provide insight into the experience.

Snow Dance (videocassette (1/2 inch VHS & BETA), free on loan or may be purchased, color 16 minutes), Paralyzed Veterans of America.

"Snow Dance" graphically portrays the psychological and physical value of wheelchair sports and shows the thrill of competition experienced in winter sports.

Tennis in a Wheelchair (videocassette (1/2 inch VHS and 3/4 inch VHS & BETA), color, 18 minutes), National Foundation of Wheelchair Tennis.

This video, produced for the National Foundation for Wheelchair Tennis by Wheelchair Sports Productions is an excellent introduction to the sport of wheelchair tennis.

The Mountain Does It for Me (16mm, videocassette (VHS), for sale or rent, color, 12 minutes), Crystal Productions.

Oak Creek Films looks at the special training and educational approach used to teach youngsters with cerebral palsy to ski. "It's kind of like a dream because movement, like walking, doesn't come easy for me. But in skiing, I don't have to fight it. The mountain does it for me," says one of the skiers.

Unique Aerobics (video/color) Recreation Programs Unlimited.

Designed for and starring adults who have developmental disabilities, this tape offers a fabulous opportunity for people to work at their own pace with their peers.

Wilderness Access (videocassette (3/4 inch U-matic, VHS or BETA), rent or purchase, color), Octavio Molina.

"Wilderness Access" was shot on location in northwest Ontario, one of the last great wilderness regions of North America. It features people with paraplegia, cerebral palsy, blindness, and other disabilities on a ten-day wilderness canoe trip. The trip was organized by Wilderness Inquire II, a Minnesota-based group founded in 1978 with the intent to introduce integrated groups of disabled and able-bodied persons to each other in an outdoor setting.

1985 National Wheelchair Games (videocassette (3/4 inch U-matic and VHS), color, 50 minutes), Chitester Creative Associates and Video Sig.

Winner of 1987 media Access Award for Best TV Special (other), this program includes coverage of the first sub-four-minute mile by a wheelchair racer. Filmed at the University of Pennsylvania, Edinboro, this video covers a wide range of track events, Doug Heir's gold-medal discus effort, the slalom, and several weight-lifting events, including the national record set by Chuck Rodelbronn.

These videotapes are available from the following sources.

American Rehabilitation
Educational Network
P.O. Box 11386
Pittsburgh, PA 15238

Bernie Lee Creative Enterprises
1331 SW Broadway
Portland, OR 97201

CC-M Productions, Inc.
7755 16th Street, NW
Washington, DC 20012

Chitester Creative Associates
Bob Chitester
10539 Edinboro Road
McKean, PA 16426

Crystal Productions
1882 John Drive
P.O. Box 2159
Glenview, IL 60025

Hubbard Press
P.O. Box 104
Northbrook, IL 60062
Lorimar Home Video
5959 Triumph
Commerce, CA 90041

National MS Society
New York City Chapter
30 West 26th Street
New York, NY 10010-2094

National Foundation of Wheelchair Tennis
Wendy Parks
15441 Redhill Avenue, Suite A
Tustin, CA 92680

NHSRA/INVACARE
c/o Wyse Public Relations
24 Public Square
Cleveland, OH 44113

Paralyzed Veterans of America
801 Eighteenth Street, NW
Washington, DC 20006

Recreation Programs Unlimited
P.O. Box 2043
Upland, CA 91785-2043

Special Olympics, Inc.
1701 K. St. NW, Suite 203
Washington, D.C. 20006

U.S. Olympic Committee
Dept. of Library and
Education Services
1750 East Boulder Street
Colorado Springs, CO 80909